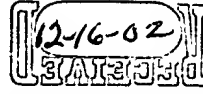Calderbank 19-6-42

E 2 *cont'l*

a space-time encoder responsive to output signal of said channel code encoder,

a mapper responsive to said space-time encoder,

pulse shaping circuitry responsive to said mapper, and

at least two antennas for transmitting a space-time coded signal created by said space-time encoder mapped by said mapper, and conditioned by said pulse shaping circuitry.

5. The transmitter of claim 4 where said demultiplexer develops an L plurality of signal streams, where said channel coders in said L channel coding/space-time coding transmitters develop rates R_i $i=1,2,...,L$, that are not identical to each other.

6. The transmitter of claim 4 where said demultiplexer develops an L plurality of signal streams, where said channel coders in said L channel coding/space-time coding transmitters develop rates R_i $i=1,2,...,L$, that are such that $R_1 > R_2 > \cdots > R_L$.

E 3

7. (Amended) The transmitter of claim 4 where said channel code encoder performs trellis encoding.

8. (Amended) The transmitter of claim 4 where said channel code encoder performs convolutional encoding.

15. A transmitter comprising:

a demultiplexer responsive to an applied input signal for developing an L plurality of at least two signal streams, and

a like plurality of channel coding encoders, each responsive to a different one of said plurality of signal streams,

a like plurality of a space-time coding transmitters, each responsive to a different one of said channel coding encoders.

16. (Amended) The transmitter of claim 15 where each of said space-time coding transmitters comprises:

E 4

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a space-time encoder responsive to input signal of said space-time coding transmitter,

a mapper responsive to said space time-encoder,

pulse shaping circuitry responsive to said modulator, and

at least two antennas for transmitting a space-time coded signal created by said space-time encoder, mapped by said mapper, and conditioned by said pulse shaping circuitry.

17. (Amended) The transmitter of claim **15** where each channel coding encoder $i=1,2,...,L$ in said L plurality of channel coding encoders develops codes at rate R_i, and the rates for different values of index i are not identical to each other.

18. (Amended) The transmitter of claim **17** where said demultiplexer develops an L plurality of signal streams, where said channel coding encoders develop rates R_i $I=1,2,...,L$, that are such that $R_1 > R_2 > \cdots > R_L$.

19. (Amended) The transmitter of claim **17** where said demultiplexer develops an L plurality of signal streams, where said channel coding encoders develop rates R_i $i=1,2,...,L$, that are such that $R_1 < R_2 < L < R_L$.

20. (Amended) The transmitter of claim **15** where said channel coding encoder performs trellis encoding or convolutional encoding.

REMARKS

The specification was objected to because of an erroneous reference to an equation (40). This error is corrected.

The claims were objected to. Applicants apologize for the error in claim 3. The correction of the previous Office action response is repeated here and, thereby, the objection is overcome.

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